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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,967	03/22/2001	Tetsuyuki Murata	249-174	6041

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EXAMINER
WINTER, GENTLE E

ART UNIT	PAPER NUMBER
1746	

DATE MAILED: 09/15/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary	Application No.	Applicant(s)	
	09/813,967	MURATA ET AL.	
	Examiner	Art Unit	
	Gentle E. Winter	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) *8-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

[redacted]

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in Paper No. 2 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been, and will continue to be treated as an election without traverse (MPEP § 818.03(a)).

Specification

2. The disclosure was objected to because of the certain informalities. Applicant has made corrections to the specification and provided a new specification. The new specification has entered in view of the assertion that the same does not include any new matter.

Claim Rejections - 35 USC § 102

3. Claims 1-7 were rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,750,287 to Kinoshita et al. (Kinoshita). In response, applicants amended the claims to more particularly point out what applicants regard as their invention. Additionally, applicants provided the following remarks.

> The Kinoshita reference applied by the examiner is concerned with a very different type of structure, namely an organic electrolytic cell using a metallic oxide as the positive electrode and metallic lithium or a lithium alloy as the negative electrode. … Kinoshita is concerned with addressing issues relating to deterioration of the negative electrode containing lithium which degrades into mossy lithium, also called dentrites which are formed through repeated charge and discharge cycles - see column 1, lines 20-22.

4. The argument, while informative does not apparently go to any deficiency with respect to the propriety of the rejection.

5. Applicant continues:

> While it is true that the word "xylene" and the word "formaldehyde" are both mentioned in column 2 at lines 49 and 55, respectively, it is far from clear, in fact it is totally unclear, that thermoplastic xylene-formaldehyde resins, in particular alkylphenyl-modified xylene-formaldehyde resins are described. Even assuming for the sake of argument such resins are described ('which counsel does not agree with), it is clear that these materials are used to form the skeletal structure of infusible, insoluble material which forms the negative electrode.

6. Since claim 1 was drawn to an active material layer containing a xylene formaldehyde resin formed on the electrode, and the same is disclosed it is not clear how the claim differed from the reference. As to the argument that there is no alkylphenyl-modified xylene formaldehyde resin, it is noted that the same is not claimed in the independent claim. As to claim 2, the same is contemplated with the recitation of an aromatic hydrocarbon compound having no phenolic hydroxyl group. See e.g. column 2, line 44 *et seq.*

7. Applicant continues:

> By contrast, applicants' claims are directed to the use of a thermoplastic xylene-formaldehyde resin which is a component of the **binder** and, together with the active material, forms the main component of the active material layer which is formed on an electrode substrate.

8. This argument is drawn to the claim as amended, not as rejected. The amendment has substituted "binder" for "active material layer". The word "contains" is deemed to be open claim language. Nevertheless, so long as the active material layer include a binder and the binder includes a thermo-plastic xylene-formaldehyde resin the claim limitations are met. The above argument appears to suggest that the "main component" is the binder, however the claims only require that binder be present. Had the claim language recited "main components" the claim would be substantively narrower. Since neither the claims nor the arguments suggest this limitation, it will not be read into the claims.

9. Applicant continues:

> The Kinoshita reference also discusses the possibility of the presence of a binder in the infusible, insoluble substrate having a skeletal structure - see the discussion beginning at column 3, line 45. Kinoshita uses a fluorine-based binder and various examples of such binders are given in the last paragraph of column 3 of that reference. Choice of the binder is again related to the desirability to adequately dope the electrode substrate with lithium - see the first three lines of column 4 of the reference. Clearly there are distinctions in structure and composition as between the binders used in the Kinoshita reference and the binder used in the present application.

10. Ideally applicants would point to the clear distinctions between the structure and composition of the binder used in Kinoshita and the present application. This examiner does not see the structural differences between the rejected system and the present invention.

> In like manner, Kinoshita is concerned with electrodes composed of an infusible, insoluble substrate having a polyacene type skeletal structure in order to control the amount of lithium in the cell.

11. The forgoing seemingly is present in the rejected claims. The word "infusible" allows for the formation of the active material. At column 3, line 7 *et seq.* Kinoshita discloses:

> "the infusible, insoluble substrate has a polyacene type skeletal structure wherein an aromatic polycyclic structure was moderately developed, and takes an amorphous structure, and thus the substrate can be doped stably with lithium, and therefore, is useful as an active material for cells."

12. Finally, applicant argued:

> Applicants also submit that the examiner is attempting to rely upon a document from a very different and distinct area of electrolytic cells - Kinoshita is concerned with organic electrolyte batteries yet the examiner is attempting to apply the description in this document to a separately developed art area of alkaline storage batteries. It is also argued, without any support, factual or otherwise, that one may simply interchange the two technologies and the materials used in them. This is not the case. The problems in Kinoshita's area of organic electrolytic cells are quite different from the technology associated with alkaline storage batteries nor does the record of this application demonstrating similarities exist (they do not).

13. It is noted that the claim is to an apparatus. Future intended uses, without associated structural limitations, do not impart patentable weight to an otherwise unpatentable claim. The instant claim is drawn to an electrode.

14. For at least the foregoing reasons, the arguments are not persuasive, and the rejection will not be withdrawn at this time.

[redacted]

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,750,287 to Kinoshita et al. (Kinoshita).

2. With specific respect to claim 1, which is drawn to an electrode for an alkaline storage battery comprising an electrode substrate and an active material layer formed on the electrode substrate. The active material layer containing an active material and a binder as a main component, wherein said active material layer contains thermosetting xylene-formaldehyde resin. Kinoshita discloses a lithium-containing organic electrolytic cell (see e.g. column 28, line 34 *et seq.* especially at 34) including an electrode (see e.g. column 28, line 34 *et seq.* especially at 40), wherein the electrode is disclosed to have a substrate (see e.g. column 28, line 34 *et seq.* especially at 41). The active material layer (lithium) contains lithium and an aromatic condensation polymer (see e.g. column 28, line 34 *et seq.* especially 47-50). Part of the aromatic hydrocarbon compound is disclosed as having phenolic hydroxyl group(s) being replaced with an aromatic hydrocarbon compound having no phenolic hydroxyl group, such as, "for example, a condensate of phenol, xylene and formaldehyde" (see e.g. column 2, line 44 *et seq.* especially 50-51).

3. As to claim 2, disclosing that the thermosetting xylene-formaldehyde resin is alkylphenyl-modified xylene-formaldehyde resin. The same is contemplated with the recitation of an aromatic hydrocarbon compound having no phenolic hydroxyl group. See e.g. column 2, line 44 *et seq.*

4. As to claim 3, disclosing that the active material has a particle diameter of 20-100 microns. The same is disclosed with the recitation that the active material has an average particle size of 20 microns or less. See e.g. column 7, line 22 *et seq.* especially 27.

5. As to claim 4, disclosing that the active material is a hydrogen absorbing metal alloy capable of reversibly making electro-chemical absorption or desorption of hydrogen. Lithium is a hydrogen storage alloy capable of reversibly making electro-chemical absorption or desorption of hydrogen. Lithium is disclosed as "useful as an active material for cells." See e.g. column 3, line 22 *et seq.* especially line 30.

6. As to claims 5 and 6, disclosing that a layer of said thermoplastic xylene-formaldehyde resin covers the outside of said active material layer. The binder inherently forms a layer that includes thermoplastic xylene-formaldehyde resin. See e.g. column 27, line 34 *et seq.* especially lines 42 and 43. Claim 6, discloses that the thermoplastic xylene-formaldehyde resin is contained in a boundary between said active material layer and said electrode substrate. This is disclosed at e.g. column 27, line 34 *et seq.* especially lines 42 and 43. PAS is discussed at column 2, line 1, especially line 17 *et seq.*

7. As to claim 7, disclosing that the thermoplastic xylene-formaldehyde resin is contained in said active material layer. The resin is disclosed as *inter alia* the binder for the active material in column 2, line 3 *et seq.* as discussed above with respect to claims 1-6

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gentle E. Winter whose telephone number is (703) 305-3403. The examiner can normally be reached on Monday-Friday 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (703) 308-4333. The fax phone numbers for

the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gentle E. Winter
Examiner
Art Unit 1746

September 11, 2003

RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
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